## What is claimed is:

1. A vaccinating agent for use in promoting an effective immune response, in a mammalian host, against an infectious pathogen from the genus Mycobacterium, said vaccinating agent comprising:

at least a portion of at least one majorly abundant extracellular product selected from the group consisting of M. tuberculosis 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein, 14 KD protein, 12 KD protein and respective analogs, homologs, and subunits thereof; and

an adjuvant selected from the group consisting of IL-12 and MF 59.

- 2. The vaccinating agent of claim 1 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 3. The vaccinating agent of claim 1 wherein said at least one majorly abundant extracellular product is a mixture of M. tuberculosis 32% KD protein, 30 KD protein, and 16 KD protein.
- 4. The vaccinating agent of claim 1 wherein said adjuvant is IL-12.
- 5. The vaccinating agent of claim 1 wherein said adjuvant is a mixture of IL-12 and MF 59.
- 6. A method for immunizing a mammalian host against an infectious pathogen of the genus *Mycobacterium*, said method comprising the steps of:

providing a vaccinating agent comprising at least a portion of at least one majorly abundant extracellular

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product selected from the group consisting of M. tuberculosis 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein, 14 KD protein, 12 KD protein and respective analogs, homologs, and subunits thereof, and an adjuvant selected from the group consisting of IL-12 and MF 59; and introducing said vaccinating agent into said mammalian host to induce an effective immune response to subsequent infection by said infectious pathogen.

- 7. The method of Claim 6 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 8. The method of claim & wherein said at least one majorly abundant extracellular product is a mixture of M. tuberculosis 32A KD protein, 30 KD protein, and 16 KD protein.
- 9. The method of claim 6 wherein said adjuvant is IL-12.
- 10. The method of claim 6 wherein said adjuvant is a mixture of IL-12 and NF 59.
- 11. A vaccinating agent for use in promoting an effective immune response, in a mammalian host, against an infectious pathogen from the genus Mycobacterium, said vaccinating agent comprising:

at least one immunodominant epitope of at least one majorly abundant extracellular product selected from the group consisting of M. tuberculosis 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein,

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14 KD protein, 12 KD protein, and respective analogs, homologs, and subunits thereof.

- 12. The vaccinating agent of claim 11 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 13. The vaccinating agent of claim 12 wherein said at least one immunodominant epitope is selected from the group consisting of *M. tuberculosis* 32A KD protein subunits having the amino acid sequences

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5	Peptide Sequence	ID No.
	GLRAQDDFSGWDINT	104
	WDINTPAFENYDQSG	106
	PA/FEW/YDQSG KSVVM	107
	PV/GGQ/SSFYSD/WYQP	110
10	GC & TY K W ETFL)TSEL	114
	KW ETF LTSELP GWLQ	115
	ANHUKPTGSAVVGL	118
	AVVGLSMAASSALTL	120
	SAUTLAYYHPQQFVY	122
15	AIY/HPQQ/FVYAG/AMS	123
	QQFWYAGAMSGLIDP	124
	GLLD PSQAMGPTLIG	126
	SQAMGPTLICLAMGD	127
	NDPLLNVGKLIANNT	134
20	NVGKLIANNTRVWVY	135
	I A N N T R V W V Y C G N G K	136,
	с д и д к Р ѕ р г д д и и г Р	138

and respective analogs, homologs, and subunits thereof including single or multiple amino acid substitutions, deletions, insertions, and inversions.

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An immunodiagnostic agent for use in promoting a detectable immune response in a mammalian host identifying an infectious pathogen from the genus Mycobacterium, said immunodiagnostic agent comprising:

at least one immunodominant epitope of at least one majorly abundant extracellular product selected from the group consisting of *M. tuberculosis* 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein, 14 KD protein, 12 KD protein and respective analogs, homologs, and subunits thereof.

- 15. The immunodiagnostic agent of claim 14 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 16. The immunodiagnostic agent of claim 15 wherein said at least one immunodominant epitope is selected from the group consisting of M. tuberculosis 32A KD protein subunits having the amino acid sequences

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	G	L	R	A	ß	D	D	F	s	G	W	D	Æ	N	T	104
	W	D	I	N	$I_{\Gamma}$	P	Α	F	E	W	Y	9/	Q	s	G	106
	P	Α	F	E	W	Y	D	$\phi$	s	G	Ľ	s	V	V	M	107
	P	V	G	G	Q	s	S	F	Y	s	D	W	Y	Q	P	110
10	G	С	Q	Т	Y	K	W	E	£.	F	L	Т	s	E	L	114
	K	W	E	Т	F	L	Т	S	E	L	P	G	W	L	Q	115
,	A	N	R	Н	V	K	P	Т	G '	s	A	V	V	G	L	118
	A	V	V	G	L	s	M	A	A	b	s	A	L	T	L	120
	s	A	L	Т	L	A	I	Y	H	1	Q	Q	F	V	Y	122
15	A	I	Y	Н	P	Q	Q	F	V	Y	Α	G	A	M	s	123
	Q	Q	F	V	Y	Α	G	A	M	s	G	L	L	D	P	124
•	G	L	L	D	P	s	Q	Α	M	G	þ	Т	L	I	G	126

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	S	Q	A	M	Ġ	P	Т	L	I	G	L	A	M	G	D	127
	N	D	P	L	f	N	V	G	K	L	I	A	N	N	Т	134
20	N	V	G	K	, <del>1</del>	I	A	N	N	T	R	V	W	V	Y	135
	I	A	N	N	T	R	V	W	V	Y	С	G	N	G	K	136
	С	G	N	G	K	P	s	D	L	G	G	N	N	L	P	138

and respective analogs, homologs, and subunits thereof including single or multiple amino acid substitutions, deletions, insertions, and inversions.

17. A method of immunizing a mammalian host against an infectious pathogen of the genus Mycobacterium, said method comprising the steps of:

providing at least one immunodominant epitope of at least one majorly abundant extracellular product selected from the group consisting of M. tuberculosis 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein, 14 KD protein, 12 KD protein and respective analogs, homologs, and subunits thereof; and

introducing said at least one immunodominant epitope to said mammalian host to induce an effective immune response to subsequent infection by said infectious pathogen.

- 18. The method of claim 17 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 19. The method of claim 18 wherein said at least one immunodominant epitope is selected from the group consisting of *M. tuberculosis* 32A KD protein subunits having the amino acid sequences

5		,		1	Per	ot:	ide	e 8	Sec	gue	enc	<u>се</u>					Seq. ID No.
	G	L	R	A	ф	D	D	F	s	G	W.	D	I	N	Т		104
	W	D	I	N	#	P	A	F	E	W	Y	D	Q	s	G		106
	P	A	F	E	W	Y	D	Q	s	G	L	s	V	V	M		107
	P	V	G	G	d	S	s	F	Y	s	D	W	Y	Q	P		110
10	G	С	Q	T	Υ	K	W	E	T	F	L	Т	s	E	L		114
	K	W	E	$\mathbf{T}$	F	\r	$\mathbf{T}$	s	E	L	P	G	W	L	Q		115
	A	N	R	Н	V	k	P	${f T}$	G	s	A	V	V	G	L		118
	Α	V	V	G	L	\$	M	À	A	s	s	Α	L	Т	L		120
	S	A	L	Т	L	A	Ι	Y	Н	P	Q	Q	F	V	Y		122
15	Α	I	Y	Н	P	Q	Ø	F	V	Y	A	G	A	M	s		123
	Q	Q	F	V	Y	A	b	A	M	s	G	L	L	D	P		124
	G	L	L	D	P	S	Þ	A	M	Æ,	P	Т	L	I	G		126
	S	Q	A	M	G	P	#	L	I	G	ľ	\A	M	G	D		127
	N	D	P	L	4	N	A	G	K.	L	I	A	N	N	T		134
20	N	V	G	K	4	I	A	N	N	Т	R	v	W	V.	Y	-	135
	I	A	N	N	4	R	V	W	V	Y	С	9	N	G	K		136
	С	G	N	G	К	P	s	þ	L	G	G	N	N	L	P		138

and respective analogs, homologs, and subunits thereof including single or multiple amino acid substitutions, deletions, insertions, and inversions.

20. A method for detecting the presence of an immune response in a mammal against a pathogen of the genus Mycobacterium, said method comprising the steps of:

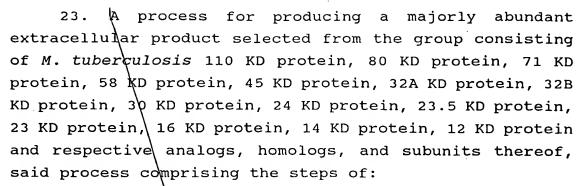
providing at least one immunodominant epitope of at least one majorly abundant extracellular product selected from the group consisting of M. tuberculosis 110 KD protein, 80 KD protein, 71 KD protein, 58 KD protein, 45 KD protein, 32A KD protein, 32B KD protein, 30 KD protein, 24 KD protein, 23.5 KD protein, 23 KD protein, 16 KD protein, 14 KD protein, 12 KD protein and respective analogs, homologs, and subunits thereof;

administering said at least one immunodominant epitope to said mammal; and measuring the resultant immune response.

- 21. The method of claim 20 wherein said at least one majorly abundant extracellular product is M. tuberculosis 32A KD protein.
- 22. The method of claim 21 wherein said at least one immunodominant epitope is selected from the group consisting of M, tuberculosis 32A KD protein subunits having the amino acid sequences

5	Peptide Sequence	Seq. ID No.
	GLRAQDFSGWDINT	104
	W D I N/T P A F E W Y D Q S G	106
	PAFEWYD\QSGLS\VVM	107
	PVGd\QSS\FYSDW\YQP	110
10	GCQT\Y KW KTFLTSEL	114
•	KWET   LTS ELB GWLQ	115
	ANRH VKP T S AVVG L	118
	AVVGL/SMAA/SSA/LTL	120
	SALTL A/IYH PQQF VY	122
15	AIYHPQQFVYAGAMS	123
	QQFVYAGAMSGLLDP	124
	GLLDPSQAMGPTLIG	126
	SQAMGPTLIGLAMGD	127
	иррггилскгіупит	134
20	N V G K L I A N N T R V W V Y	135
	I A N N T R V W V Y C G N G K	136
	ссискрѕогссии/гр	138

and respective analogs, homologs, and subunits thereof including single or multiple maino acid substitutions, deletions, insertions, and inversions.



transforming a host cell with a vector to form

10 a transformed cell, said vector comprising a nucleic acid

molecule encoding one of said majorly abundant

extracellular products; and

culturing said transformed cell to thereby produce said majorly abundant extracellular product.

- 24. The process of claim 23 wherein said nucleic acid molecule encodes for the 32A KD M. tuberculosis protein.
- 25. The process of claim 24 which includes the additional step of recovering said majorly abundant extracellular product that is produced by culturing of said transformed cell.
- 26. The process of claim 24 wherein said vector comprises pSMT3. LAB wherein said vector
- 27. The process of claim 24 wherein said host cell is M. smegmatis or M. vaccae.
- 28. The process of claim 24 wherein said transformed cell is cultured at a temperature of 28°C.